

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-18 (canceled)

1 Claim 19 (currently amended): A method for assessing the uniformity in
2 temperature distribution in regions of a sensor comprising a sensor array which comprise
3 conduction paths, ~~monitoring the quality of a sensor,~~ comprising:
4 applying a voltage to said sensor to cause said sensor to dissipate energy;
5 capturing an image of said sensor with an infrared camera to generate a
6 thermographic image of said sensor while said sensor is dissipating energy;
7 identifying conduction paths in said sensor array as regions having a higher
8 temperature than their surroundings;
9 calculating a measure of the uniformity of the temperature distribution of the
10 image; and
11 assessing the uniformity of the temperature distribution in said regions, using said
12 measure, wherein a higher measure value corresponds with a more uniform temperature
13 distribution ; and
14 ~~monitoring the quality of said sensor using said temperature distribution.~~

1 Claim 20 (original): The method according to claim 19, wherein at least one of
2 said sensors in said array is a member selected from the group consisting of
3 conducting/nonconducting sensors, bulk conducting polymer films, surface acoustic wave
4 devices, fiber optic micromirrors, quartz crystal microbalances, dye impregnated polymeric
5 coatings on optical fibers, sintered metal oxide sensors, phthalocyanine sensors, Pd-gate
6 MOSFET devices, electrochemical cells, conducting polymer sensors, lipid coating sensors,

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5 coatings on optical fibers, sintered metal oxide sensors, phthalocyanine sensors, Pd-gate
6 MOSFET devices, electrochemical cells, conducting polymer sensors, lipid coating sensors,

7 metal FET structures, carbon black-polymer composites, micro-electro-mechanical system
8 devices, micromachined cantilevers, and micro-opto-electro-mechanical system devices.

1 Claim 21 (original): The method according to claim 20, wherein at least one of
2 said sensors in said array is a conducting/nonconducting regions sensor.

1 Claim 22 (currently amended): A method for identifying the conducting path of
2 a sensor comprising a sensor array, comprising:
3 applying a voltage to said sensor to cause said sensor to dissipate energy;
4 capturing an image of said sensor with an infrared camera to generate a
5 thermographic image of said sensor while said sensor is dissipating energy; and
6 identifying [[said]] conduction paths in said sensor array as regions having a
7 higher temperature than their surroundings.

1 Claim 23 (original): The method according to claim 22, wherein said sensor is a
2 member selected from the group consisting of conducting/nonconducting regions sensors, bulk
3 conducting polymer films, surface acoustic wave devices, fiber optic micromirrors, quartz crystal
4 microbalances, dye impregnated polymeric coatings on optical fibers, sintered metal oxide
5 sensors, phthalocyanine sensors, Pd-gate MOSFET devices, electrochemical cells, conducting
6 polymer sensors, lipid coating sensors, metal FET structures, carbon black-polymer composites,
7 micro-electro-mechanical system devices, micromachined cantilevers, and micro-opto-electro-
8 mechanical system devices

Claims 24-25 (canceled)

1 Claim 26 (new): The method according to claim 19 wherein said measure
2 comprises a temperature uniformity factor comprising a ratio of regions in said image that
3 contribute to a proportion of a cumulative sum of the temperatures.